

1     CLAIMS

2             1. An isolated cloned human gene having at least in  
3     part the following nucleotide sequence:

4     GTCTACATGGGTGCTTCCCATTCCAGGGGATGAGCTACCTGGAGGATGTGCGGCTCG  
5     TACACAGGGACTTGGCGGCTCGGAACGTGCTGGTCAAGAGTCCCAACCATGTCAAAA  
6     TTACAGACTTCGGGCTGGCTCGGCTGCTGGACATTGACGAGACAGAGTACCATGCAG  
7     ATGGGGGCAAGGTTAGGTGAAGGACCAAGGAGCAGAGGAGGCTGGGTGGAGTGGTGTG  
8     TAGCCCATGGGAGAACTCTGAGTGGCCACCTCCCCACAACACACAGTTGGAGGACTT  
9     CCTCTTCTGCCCTCCCAGGTGCCCATCAAGTGGATGGCGCTGGAGTCCATTCTCCGC  
10    CGGCGGTTACCCACCAGAGTGATGTGTGGAGTTATGGTGTGTGATGGGGGGTGTG  
11    GGAGGGGTGGGTGAGGAGCCATGG---

12    wherein A, T, C and G represent adenine, thymine,  
13    cytosine and guanine nucleotides, respectively.

14             2. The gene of Claim 1 having the characteristics  
15    of ATCC deposit number 53408.

16             3. Nucleic acid probes having specific binding  
17    affinity for at least a part of the gene of Claim 1 or  
18    for a nucleic acid derivative thereof.

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1           4. A polypeptide having at least in part the  
2 following amino acid sequence:

3 GlyMetSerTyrLeuGluAspValArgLeuValHisArgAspLeuAlaAlaArgAsn  
4 ValLeuValLysSerProAsnHisValLysIleThrAspPheGlyLeuAlaArgLeu  
5 LeuAspIleAspGluThrGluTyrHisAlaAspGlyGlyLysValProIleLysTrp  
6 MetAlaLeuGluSerIleLeuArgArgArgPheThrHisGlnSerAspValTrpSer  
7 TyrGly---.

8           5. Antibody having specific binding affinity for at  
9 least a portion of the polypeptide of Claim 4.

10           6. A test kit for detecting genetic abnormalities  
11 related to the gene of Claim 1 in humans comprising  
12 containers containing specific nucleic acid probes of  
13 Claim 3 and instructions for performing test with said  
14 probes.

15           7. Antibody reagent kit for detecting the  
16 polypeptide of Claim 4 comprising containers containing  
17 antibodies of Claim 5, immunological reagents and  
18 instructions for using the kit.

19           8. A method of diagnosing human cancer related to  
20 the gene of Claim 1 comprising:

1 (a) detecting amplification rearrangement or  
2 over-expression of the gene of Claim 1 by hybridizing  
3 nucleic acid derived from a tissue sample of a human  
4 suspected of said cancer with the nucleic acid probes of  
5 Claim 3; or

6 (b) detecting abnormal expression of the protein  
7 product of the gene of Claim 1 by reacting a body sample  
8 of a human suspected of said cancer with antibodies of  
9 Claim 5.

10 9. A method of inhibiting malignancy caused by  
11 erb-B related gene comprising reacting protein produced  
12 by said gene with antibody having specific binding  
13 affinity for said protein.

14 10. The method of Claim 9 wherein said antibody is  
15 conjugated with a toxic agent.

11. Cell lines exhibiting defined amounts of DNA, RNA or  
protein specific for the v-erbB-related gene of claim 1.

9/25/87

WUK 10/1/87

CRK 10/7/87

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a1  
add  
p1  
add  
p1

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E4

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75

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G5

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L2